

REMARKS

In the Final Action of May 30, 2008, claims 1, 3, 5 and 11 were rejected under 36 U.S.C. 102(b) as being anticipated by Coffman.

In paragraph 4 of the Final Action, claims 7, 9, and 13-14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Coffman.

Also, in paragraph 5 of the Final Action, claim 12 was rejected under 35 U.S.C. 103(a) as being unpatentable over Coffman as applied to claim 1 and further in view of Hrivnak et al. (USPN 4388356).

Further, in paragraph 6 of the Final Action, claim 15 was rejected under 35 U.S.C. 103(a) as being unpatentable over Coffman in view of Hrivnak et al.

In response to the rejections, claims 1-4, 6-10, and 12-14 have been canceled, claim 15 has been amended to incorporate the subject matter of canceled claim 3, and claims 5 and 11 have been amended to depend from currently amended claim 15.

Coffman discloses an apparatus and method for producing articles by which a wall portion thereof can be kept thick while a forming plunger descends.

Specifically, in Coffman, it is disclosed from col. 3, line 65 to col. 4, line 1 that an annular blank holder 14 is adapted to be placed on the blank, and it exerts sufficient force to keep the blank not to wrinkle but enough to keep the blank from being drawn into the female die by the forming plunger. Accordingly, the wall portion can be kept thick.

Therefore, unlike the present invention, a portion forming the flange portion in Coffman is not drawn before forming the flange (clamping), so that the flange portion is not oriented or crystallized.

On the other hand, in the present invention, since a sheet is clamped around a forming mold, a relation between the inside (pre-clamp area) and the outside of the clamped portion of the sheet is severed.

As shown in Fig. 3 in the present application, the upper pre-clamp mold 14 and the lower pre-clamp mold 15 are coaxially disposed on outer peripheries of the upper mold 13 and the lower mold 12, and cooperate with each other to fix the thermoplastic resin sheet so that the inside of the clamped portion is severed from the outside of the clamped portion of the sheet.

Therefore, a vessel manufactured by the manufacturing method of the present invention has a thickened bottom part, and the vessel has a satisfactory self reliance or self stability. In the present invention, transparency, shock resistance, and heat resistance are superior.

It was held in paragraph 6 of the final Action that "Hrivnak et al teach a plug-assist thermoforming process, wherein a thermoplastic sheet is pneumatically formed into a formed article by a plug and a lower mold heated at a temperature not less than a crystallization temperature of the sheet; thermally fixing the sheet; and then decompressing an inside of the formed article to contract the article into a shape of the plug; and cooling the article (col 3, lns 10-30; col 5, lns 8-15; col 5, ln 43-col 6, ln 3; col 6, lns 48-61)."


As stated above, Hrivnak does not disclose or suggest pre-forming the thermoplastic resin sheet by a plug, wherein a portion corresponding to an orifice portion or a flange portion of the cup-shaped vessel is drawn, as now clearly recited in claim 15.

In order to establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.

Since none of cited references in the Final Office Action shows the step for drawing a portion corresponding to an orifice portion or a flange portion of a cup-shaped vessel as recited in claim 15, claim 15 is patentable over the cited references.

Reconsideration and allowance are earnestly solicited.

Respectfully Submitted,

By   
Manabu Kanesaka  
Reg. No. 31,467  
Agent for Applicants

1700 Diagonal Road, Suite 310  
Alexandria, VA 22314  
(703) 519-9785